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ABSTRACT

Recommended teaching techniques for instructing disadvantaged students are presented in this manual. A general definition of a disadvantaged student is given in the introduction, followed by a specific listing of characteristics which a student in the State of Virginia should exhibit in order to qualify for a special program for disadvantaged students in the State. Characteristics which make disadvantaged pupils difficult to teach are outlined; their strengths are also identified. Suggested positive approaches to teaching the disadvantaged are given, along with a listing of the qualities a teacher of the disadvantaged seems to need. Methods for selecting appropriate techniques for teaching the disadvantaged are examined, and the remainder of the manual is devoted to describing the use of twelve of these techniques and/or resources: Audiovisual aids, tape recordings, brainstorming, demonstrations, field trips, games, individualized instruction, peer teaching, project methods, resource centers, resource persons, and role-playing. A short bibliography is appended. (BL)

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GUIDELINES FOR METHODS AND TECHNIQUES

OF

TEACHING DISADVANTAGED STUDENTS

Publication of this manual was made possible as a part of the:

"Program for Improving the Competency of
Vocational Education Personnel in Working
with the Disadvantaged Student"
Project Director: N. Alan Sheppard

U S DEPARTMENT OF HEALTH,
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WHO IS
THE DISADVANTAGED STUDENT?

The Vocational Amendments of 1968 defined the disadvantaged student as one who has academic, socioeconomic, cultural or other disadvantagement which prevents this student from succeeding in a regular occupational program designed for a person without such a disadvantagement, and who, for that reason, requires specially designed education programs or related services.

In the state of Virginia, the following characteristics which a student should exhibit in order to qualify for a special program for disadvantaged students are to include two or more of the following:

a. Personality, home or emotional problems

b. Members of families with low incomes

c. Low or underachiever

d. Behind one or more grades

e. Lack personal goals and/or sense of purpose

f. Disinterested in school, possibly irregular in attendance

g. Cultural or linguistic isolation

h. Normal or above in potential ability but failing to achieve for some reason

What characteristics do disadvantaged students have which makes it difficult to teach them?

Local educational agencies have the responsibility for identifying disadvantaged students and defining the disadvantagement which prevents the students from succeeding in regular vocational programs. Inability to succeed in regular vocational programs is the only criteria to establish eligibility for the possible receipt of federal vocational disadvantaged funds. Some factors that local educational agencies use to identify disadvantaged students are:

> Educationally: achievement test scores, teacher and counselor recommendations, unsatisfactory grades in vocational areas, below average I Q 's, dropouts or potential dropouts, overage for grade placement, grade point average, unable to function in normal school setting, reading and math grade level too low to succeed in approved vocational programs, lack of motivation, and absenteeism and truancy record.
>
> Socioeconomically: teacher-pupil interviews, teacher and counselor recommendations, family on welfare, free lunch program, referrals by home school visitors or school psychologists, families where the head of the household is unemployed, family income below poverty level and students eligible for Neighborhood Youth Corps.
>
> Culturally: teacher-pupil interviews, inability of students to relate to peer groups, Spanish-speaking students, minority ethnic groups, customs or style of living different from the norm, referrals from social workers.

Every student is an individual and should be treated as such. Characteristics given are not absolute in the respect that every disadvantaged student could be expected to have every characteristic. Those given do suggest some characteristics which may prevent the disadvantaged student from succeeding in a regular vocational class.

a. Physical problems and influences. The student could have poor health which may have started its influence even before birth in the lack of prenatal care given the mother and continued through lack of good medical care as the child grew up. In addition, the student may have other physical problems, i.e., a lack of sleep, drugs, alcohol etc. Housing conditions may not be conducive to good study habits.

b. Fear of School. Because of unpleasant past experiences, and lack of success the disadvantaged student may feel inadequate and afraid to try.

c. Lack of relevant educational readiness experiences.

d. Differences in language skill development.

e. Short attention span. This may be a result of poor reading ability, uninteresting lessons, long and difficult assignments etc.

f. Reticence. (1) This may be caused by shyness. (2) No one may have ever shown an interest in the student as an individual and they don't know how to cope with the attention. (3) The student may not talk to adults in the home and community. (4) Lack of confidence in their ability might also contribute to reticence in a student.

What are the strengths of the disadvantaged student?

Realizing that the disadvantaged student may have some of the problems listed above is essential. But it is important to go one step further; and consider the particular strengths of the disadvantaged student. They are as follows:

a. Accepting responsibility at an early age.

b. Possessing superior coordination and physical skills.

c. Relating well to concrete experiences.

d. A tendency to have collective (family and group) rather than individual values.

e. Being less susceptible to status and prestige factors; therefore, being more genuinely equalitarian in values.

f. Experiencing family cooperativeness and mutual aid.

g. Being physically and visually oriented.

What are some positive approaches in teaching the disadvantaged student?

The educational plight of disadvantaged children is well-known by almost everyone in academic circles. The lack of verbal ability, motivation and curiosity, poor self-image and all the other gaps must speak volumes to vocational educators.

The mounting evidence that disadvantaged children fall farther behind each year in school mandates that educational cancer must be

attacked early with every means possible. A remedial reading teacher of many years' experience substantiated this viewpoint when she said, "If we don't catch these children up in reading skills and vocabulary by the end of the third grade, I'm convinced we've pretty much lost the battle."

Realistic instruction, of course, is based on the needs of the children and every staff member must be fully aware of these needs. However, it is important to know why these deficits exist, and, just as important, to identify the strengths of the underprivileged.

It is easy to overlook the fact that disadvantaged children have potential. Their limited vocabulary is due to the low educational attainment of community inhabitants, lack of opportunity to speak with elders, and lack of reading materials and travel experiences, to name a few. It cannot be forgotten that verbal skills can be acquired. Abraham Lincoln emerged from a deprived background to command the English language as few Americans ever learned to do.

The words positive approach are quite appropriate--if we don't turn these students on they won't be around long; thus the term approach is important.

What is a positive climate for teaching the disadvantaged? A climate that is orderly and consistent and which provides constructive challenges. The orderly environment provides both--the chance to experience the organized processes in vocational education and an opportunity for the student to get to know himself and his capabilities better.

The consistent world allows the student to set aside hostilities, distrust and other forms of defense mechanisms that consume energies

better used in learning. But we all know that it takes more than environment to produce learning. It takes an individual desire and instruction geared to the changing and varied needs and competencies of students. And these changes can be quite extreme once a disadvantaged student gets turned on.

It would be so easy to assume that the disadvantaged are not capable of learning much. But it isn't true. If it were, we might be justified in turning training responsibility over to someone else. The disadvantaged represent a vast reservoir of underdeveloped talent.

So approach teaching by identifying those deficits which have limited the full development of the disadvantaged. These deficits will provide training objectives that need to be served in addition to the usual skill and knowledge objectives.

Many of the disadvantaged have higher than normal health problems and, in some instances, physical handicaps. In a midwestern school of dropouts, 95% of the students were found to have physical problems which could interfere with learning. At least two-thirds of these needed immediate treatment before any real instruction could take place.

Many have family troubles which makes it difficult to take time out for learning.

Another problem area for many disadvantaged youngsters is their inability to handle verbal and abstract materials required in regular vocational education situations. In the basic communicative skills--reading, math, etc., some verge on illiteracy. One U.S. Department of Labor Newsletter indicates that 50 percent of jobless youth cannot read well enough to hold a job requiring only moderate reading ability. Reasonable literacy is needed for both job preparation and career development.

Much can be done to increase literacy by getting these students involved in tutoring activities. Using an advanced disadvantaged student to tutor a less advanced disadvantaged student can benefit both. In the first place, both will probably increase their literacy development. Next, the tutor can be a positive model and increase the other student's motivation to succeed. Further, tutoring will provide both with social experiences in getting along with others. Finally, when a tutor is paid for his work, well, he has found another avenue for taking care of his financial problems.

Failure to succeed using the conventional school processes has "turned off" many disadvantaged students. NOTE: We said school NOT education. They tend to place a high value on education but not on traditional academic approaches too frequently used in schools.

Lack of success has encouraged some disadvantaged individuals to exhibit feelings of hostility, suspicion, dependence upon immediate rewards, lack of desire to assume responsibility, unconcern with time and little concern with their personal appearance. Devising ways to teach people with these characteristics is indeed a challenge to the concerned vocational teacher.

There are a variety of techniques which may be used in reaching this goal and certainly no "tricks of the trade" will assure success for all teachers. The methods used effectively by one teacher may not work for another. Variables such as teacher's personality, equipment and facilities available, type of students being served, and nature of the subject being taught can affect the selection of the most effective methods of instruction for each teacher and situation.

However, a review of the literature evidences some basic concepts and principles which if considered and implemented by the teacher in his or her own ingenious way should help improve their effectiveness in teaching disadvantaged youth.

Although it is essential to prepare for teaching any class, it is most important that special preparation be made for teaching disadvantaged youth classes. The deviate attitudes, needs, family backgrounds, and characteristics suggest that only those who have carefully thought out and planned their daily lesson activities will be successful. Included among the various preparation and planning techniques are the following:

1. Become familiar and sensitive to the cultural characteristics of the community in which your students live. This may be learned from experienced teachers, the principal, guidance counselors, and/or social agencies within the community. It is the contention of many educators that it is not necessary for a teacher to have lived in a deprivated community to be aware of and sensitive to the needs of disadvantaged students.
2. Identify the positive characteristics of the disadvantaged student. This can be accomplished through informal discussions with the student on current items of interest and recreational activities.
3. Develop rapport with the students along with respect for them regardless of their past history. Seek out the natural leaders of the class and win their support.

4. Plan to develop and improve the student's self-concept. Discussions of the positive traits of each student and successful peers can be the initiating force in changing their own image.
5. Reduce or eliminate as far as possible the overwhelming physical or mental problems which the student currently has. Involvement of special staff members such as school psychologist, school nurse, and other social agencies may be necessary.
6. Select initial learning material geared to the students' readiness. Start with the learner's current level of understanding and from a base that he or she knows.
7. Plan instruction on a sequential and related basis. Each new unit should be linked to the preceding lesson.
8. Setup short-term educational goals which are achievable. Remember that the disadvantaged learner can concentrate on very few items at one time.
9. Select teacher aides from the disadvantaged community. Aides serve as models for the students, give wide experience in verbalization, and reinforce what has been previously learned. They can also be used to improve the relationship and understanding between the school and parents.

The Laws of Learning

There are a number of very basic psychological laws which control and affect student learning. To achieve any real measure of success in teaching disadvantaged students, it is helpful to understand these laws. Using them, a teacher can make the learning experience more effective, lasting, and enjoyable for the disadvantaged student.

The Law of Effect. People tend to accept and repeat those responses which are pleasant and satisfying and to avoid those which are annoying. If a student enrolls in a course expecting to learn a new skill, for example, and quickly finds that he/she is learning it and enjoying the learning process, the student will tend to want to keep returning to class. Moreover, he/she probably will want to enroll in more courses upon completing the first one. In short, "Nothing succeeds like success." Teachers can help students experience success in each class period as they help to master a new idea or operation.

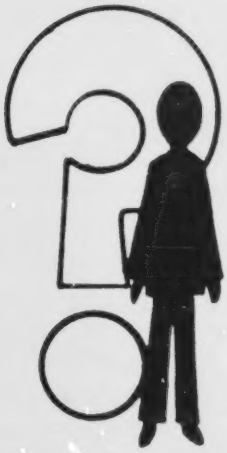
The Law of Primacy. First impressions are the most lasting. This means that those first classes are all important. Early in the course it is helpful to arouse the student's interest in the subject matter by giving them an opportunity to discuss their needs for the course. Keeping the law of primacy in mind, it is important that students learn the content correctly the first time.

The Law of Exercise. The more often an act is repeated, the more quickly a habit is established. Practice makes perfect if the practice is the right kind. Practicing the wrong thing will become a habit, too--one that's hard to break. Students should be checked to insure that they are performing an operation correctly.

The Law of Disuse. A skill not practiced or a knowledge not used will be largely lost or forgotten. A teacher should recognize the value of repetition for reinforcing newly gained knowledge or skills. Studies have shown that the period immediately following the learning process is the most critical. Important items should be reviewed soon after the initial instruction.

The Law of Intensity. A vivid, dramatic, or exciting learning experience is more likely to be remembered than a routine or boring experience. This does not mean that the classroom should be a circus or a theatre-in-the-round. But, on the other hand, the teachers whose subjects are longest remembered are those who had the ability to "bring their subject matter alive."

WHAT TYPE OF TEACHER DO DISADVANTAGED STUDENTS SEEM TO NEED?



Patient--Often students seem to take twice as long to do a job as a teacher thinks they will. The ones who finish earlier need to have things which they can do on their own to help themselves learn.

Versatile--Some students have a short attention span as a result of long, difficult lessons etc. and need four little, short things to do per hour. Lots of drill is needed, but it needs to be disguised a bit each time. Students probably won't like what "we did before."

Quickly analytical--The teacher needs to be able to size up the strengths and weaknesses of the students in one class period or so, without seeming to be doing this.

Humorous--The ability to see the funny side of even pathetic problems and never to "get down."

Optimistic--The teacher needs to believe in miracles, never give anyone up, and never think of any problem as impossible to solve. He/she needs to send out rays of this feeling to the students since they are easily discouraged. The teacher should feel that with time the students will pick up what is going on.

Understanding--The teacher needs to know the fear, sense when things are too much for the students, and ease up on them. At the same time, the teacher should expect more of them and push them GENTLY on to doing more....using the things they have learned.

Philosophical--A teacher needs to keep trying to get the students to assume responsibility for their own learning, to help them face their fears and get around them. The reason for each lesson should be explained--*why* it is so designed, *what* it is to teach, *how* to do the lesson to learn the most. (Students are often good at finding short-cuts or devising their own method of doing, or doing backward ....defeating the learning process, but "getting it done.")

Creative--The teacher needs to be able to think of new approaches--go at the same lesson a bit differently.

Perceptive--A teacher needs to be able to see practical application, short-range tricks, so the students can learn *something* quickly and see their success, along with long-range work, so that *something* is always growing and building up.

Tomorrow-looking--The teacher should be able to instill in the students awareness of the world around them--all the interesting things they don't know but could learn about, and a teacher should recognize that he/she will not teach them all they need. Students will need to learn to teach themselves--learn how to do things, want to do them and graduate from the teacher's loving care into responsibility for their own learning.

Flexible--The teacher should be free to have a "hot spur of the moment" inspiration and time to try it. If what is planned is not quite right, drop it, adapt it, or forget it.

How can appropriate methods be selected to teach the disadvantaged student?

The development of realistic objectives is the first step in insuring successful learning experiences. Important decisions need to be made to select specific learning activities. Several considerations seem to operate during the selection phase. They are:

a. The advantages and limitations of each technique should be taken into account during the selection process.

b. The specific student characteristics should be considered, particularly the interest level, the level of independence of the student, the personal preferences of students' styles of learning and general ability level in terms of communication skills (speaking, reading, writing, and listening).

c. The familiarity with specific techniques by the teacher. In other words competency in using the particular teaching method.

d. The cost in terms of time, energy and expense.

e. The size of the group.

f. The willingness of the teacher to utilize various appropriate techniques.

g. Degree of student participation sought.

Some types of behavioral change and the appropriate methods or teaching techniques to use to bring about these changes are listed below.

Type of Behavioral Change	Appropriate Methods
Knowledge	Lecture, panel, reading, audiovisual aids, resource person
Insights	Discussion, experimentation, case study
Skills	Practice exercises, drill, demonstration
Attitudes	Role-playing, discussion, case method, counseling
Values	Biographical reading, workshop, sensitivity training, transactional analysis, encounter groups
Interests	Field Trips, reading, recitals, audio-visual aids

Obviously, methods of instruction should be suited to each student. The same technique may not be effective with every disadvantaged student. To develop or select the appropriate method and technique(s) for each individual student requires that the instructor know the student's capabilities, needs, interests, and desires.

Where are these methods and techniques found?

Several techniques will be described on the following pages, but there are many more. Those selected for illustration in this publication can be adapted to suit a teacher's particular instructional needs. Vocational teachers must be engaged in a constant search for techniques and methods for teaching the disadvantaged. These methods and techniques are here, there, and everywhere! Many ideas can be obtained by reading or looking through magazines, visiting the neighborhood in which these students live, talking with teaching peers, watching television, observing their behavior in the classroom and hallways, shopping in the supermarket and department store, etc. Teachers will need to have imagination, creativity and sort of a "sixth sense" to turn unsuspecting ideas or situations into stimulating and effective teaching techniques.

Most discussions on teaching techniques for special needs students usually conjure up great imaginations of new techniques completely unheard of in the annuls of classroom teaching or just radically different. For the most part; however, these techniques and methods don't differ from what teachers are already doing. They are not necessarily new, although some may be novel approaches. Most teachers have heard of them, read about them and may have used some of them. These techniques differ in the sense that they best maximize teaching effectiveness in relation to specific

student characteristics of many disadvantaged students (i.e., needs structured learning experiences, needs to work at own pace, achieves below apparent ability, wants "hands-on" experience, can be motivated by seeing the finished product, lack of motivation, lack concepts of quality, etc.). Consequently, these techniques are not optional but rather an absolute necessity for use with students who cannot or have difficulty succeeding in regular vocational education programs.

AUDIOVISUAL AIDS

Audiovisual aids would include any instructional materials in which the senses of hearing and/or seeing are involved in receiving information. A few of the audiovisual aids which have been used successfully in teaching the disadvantaged student are listed here.

a. overhead and opaque projectors
b. filmstrips
c. slides
d. films
e. audio recordings
f. television
g. videotape

Audiovisual aids can help bring the student experiences which might not otherwise be possible. The customs, dress, food, religion and experiences of people in other parts of the country and world can be brought to the classroom. In cases where real life experiences cannot be provided, audiovisual aids may be the next best thing. Particularly in vocational classes; jobs, workers and many aspects of industry can be brought to the classroom which could be impossible without the use of audiovisual aids.

Some students may need repetition of a skill or lesson beyond what is given in class. Materials which students need to review could be put on audiovisual equipment by the teacher or other students. With some instruction and practice, students can learn to operate audiovisual equipment and then use the equipment to "re-do" the lessons presented to the class. Audiovisual aids can thus be used to individualize instruction.

Students who do not read well can use the senses of hearing and seeing to obtain some of the material they might otherwise miss because of poor reading skills. In addition, seeing and hearing are often more real to a student than reading. Audiovisual aids can be more interesting and require more student involvement than other methods of learning.

A possible limitation to using audiovisual aids in teaching the disadvantaged may be the expense involved. However, most schools have some equipment available for use in classes. In addition, films, filmstrips, cassette tapes, etc. can be obtained on loan from companies or rented for a nominal fee. When determining if the cost of using audiovisual aids can be justified, the teacher should consider:

a. Can the audiovisual aid bring something important to learning which students could not otherwise experience?

b. Is this the most appropriate way for the student to learn the particular lesson?

c. Does the disadvantaged student have trouble with reading skills?

d. Will audiovisual materials stimulate interest in the lesson?

Some publications which are available to assist the teacher in obtaining audiovisual aids are:

a. Educators Guide to Free Filmstrips. Randolph, Wisconsin: Educator's Progress Service.

b. Educators Guide to Free Films. Randolph, Wisconsin: Educator's Progress Service.

c. A Directory of 16 mm Film Libraries. Washington, D.C., U.S. Office of Education.

d. Catalogue of Free Teaching Aids. Riberside, California, Gordon Salisbury and Robert Sheridan, P.O. Box 943.

One audiovisual aid which has proved very useful in teaching the disadvantaged student is the tape recorder. A section on the use of tape recording, particularly as it relates to teaching the disadvantaged student, is given here as an example of one audiovisual aid.

TAPE RECORDING

What is a tape recording?

This technique utilizes a tape recorder to present information, instruction, or ideas to one or more students.

When should tape recording be used?

This instructional strategy is more useful where reading is not a significant part of the job performance. Further, this technique is very useful for disadvantaged students who are slow readers, lack academic motivation and lack confidence. Teachers have also found tape recording to be useful in times of self evaluation and testing.

What are the advantages of using tape recording for teaching the disadvantaged student?

Tape recording:

a. allows students to hear themselves.

b. can be used to enable students to make up missed work.

c. can be used as a motivational device which could encourage disadvantaged students to use their maximum capabilities.

d. can be a most efficient and enjoyable device for getting information.

e. can be used when a substitute teacher or teacher aide is in charge of the class.

f. may assist in improving the disadvantaged student's verbalization abilities.

What limitations need to be considered in using tape recording for teaching the disadvantaged student?

a. Tape recording may require more time than traditional methods.

b. Students may be unable to operate the recorders.

c. Equipment may be expensive to purchase and maintain.

How is tape recording used most effectively in teaching the disadvantaged student?

The tape recorder is used most effectively by allowing the teacher to move around the class, to answer questions and give individual help where needed. The essence of this instructional approach is to provide time for individual help from the teacher.

Following a lesson there are often disadvantaged students who have not fully grasped the material presented. The teacher who has recorded this material during the lesson has a ready tool for these students to help themselves learn the material. Students can review material for examinations using the tape recorder or interested students may just want to go over the subject again. Another way to use a tape recorder with the disadvantaged student is by allowing the student to hear him/herself on tape.

How much does tape recording cost?

The expense involved in using tape recording varies. It depends on the number of recorders and tapes needed. With the new cassette recorders and tapes, the cost is considerably less from what it once was. Depending

on how tape recording is used in the classroom; tape recorder(s), tape(s), earphones and/or sound mixers may be needed.

How much time is involved with tape recording?

Preparation of tapes will involve some time on the teachers part. Deciding on a suitable format, information to be presenced, and actually making the tape may involve more time than might be true of other methods. Since students can use the tapes on their own, time may be saved or better utilized when students are listening to the tapes.

What teacher preparation does tape recording involve?

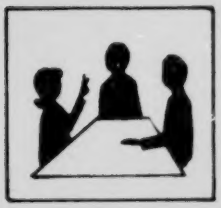
a. The teacher prepares tapes and plans for their use.

b. Follow up activities should be planned.

c. The teacher answers questions and allows time for individual help.

BRAINSTORMING

What is brainstorming?



Brainstorming is a form of imaginative or creative thinking in which reasoning gives way to initiative. Students are divided into small groups and given a problem. Suggestions are made, usually for a short time period, to a possible solution to the problem. All suggestions which are made are recorded. No decision is made on the suggestions until a later time when suggestions are sorted, discussed, evaluated, and maybe adopted. The purpose of brainstorming is for individuals to use imagination to arrive at possible solutions to a problem.

When should brainstorming be used?

Brainstorming is often effective with students who are withdrawn and do not express themselves in large group discussions. Since no idea presented is to be rejected, students who may be less verbal in other learning activities feel no threat in participating. It is used most effectively to:

a. present several viewpoints.

b. stimulate creativity in students.

c. obtain many suggestions on a possible class activity or solutions to some problem.

d. identify needs and interests which a class may wish to have discussed or covered in lessons.

What are the advantages of using brainstorming for teaching the disadvantaged student?

a. Individuals are allowed to use imagination and creativity concerning a given topic.

b. Brainstorming allows for student input.

c. A relatively large number of ideas or questions can be obtained in a short time.

d. There are no wrong answers. A disadvantaged student should feel no fear of failure in expressing himself/herself since all suggestions are accepted.

e. Friendly feelings develop among members of the group.

What limitations need to be considered in using brainstorming for teaching the disadvantaged student?

a. The teacher must insure that all ideas are being accepted and no criticisms are being given.

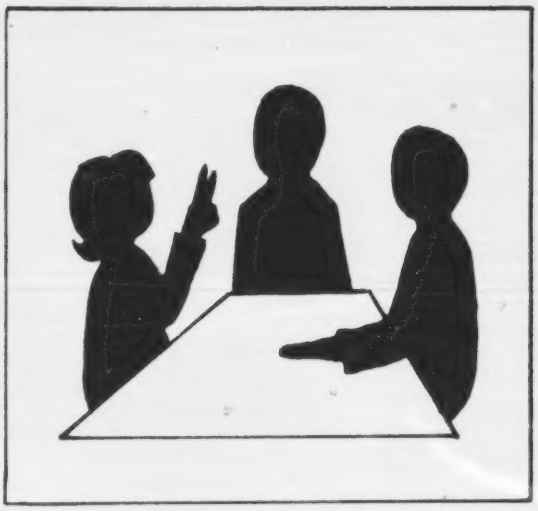
b. All of the work in brainstorming is in the abstract. Disadvantaged students tend to be physical learners rather than abstract learners.

c. Unless the goals of the brainstorming are kept in mind and students have some supervision, they may get off the subject under consideration.

d. The disadvantaged student may not be accustomed to expressing their ideas.

e. Close observation may be needed in order to discontinue brainstorming while interest is still high.

How is brainstorming used most effectively in teaching the disadvantaged student?



The outcome of brainstorming is quantity rather than quality. When a number of ideas is needed or a teacher wishes to gain student input on a problem, brainstorming is often an effective technique. After a problem has been selected, the teacher should orient the students to the subject for which suggestions are needed. Students should understand that when a suggestion is made by a group member it is recorded without discussion or evaluation.

A time limit should be set to stimulate an active flow of suggestions from students.

The class is divided into small groups. Each group should be limited to no more than twelve students. Students in each group can decide on a recorder who will write down all suggestions made by members. Further, each group will also have a leader with the responsibility to serve as coordinator for the group. The leader should try to get suggestions from all members of the group. Any negative feedback or discussion of suggestions can be discouraged by the leader.

While interest remains high and following a period when several suggestions have been made, brainstorming should be discontinued. The class then pools all the suggestions made by groups. Some type of follow up is then needed for the class to discuss ideas in practical terms and select the most workable ones.

How much does brainstorming cost?

There is no expense involved with brainstorming sessions. Since all of the suggestions come from within, no facilities, equipment or supplies are needed. The suggestion(s) finally adopted by the group may require some expense. When determining workable suggestions, students should be aware of the cost involved in each of the suggestions considered.

How much time is involved with brainstorming?

Brainstorming itself should take very little time. Usually a brainstorming session will last about twenty minutes. Some time will be needed to orient the students to the subject to be brainstormed, discuss how brainstorming is conducted and divide students into groups and determine leaders and recorders.

What teacher preparation does brainstorming involve?

The teacher will need to determine the subject of brainstorming and prepare an orientation of the subject to be presented to students. Depending on whether the students are familiar with brainstorming, some introduction to the method will be needed. Some preparation time may be needed to determine how to divide students into groups and to determine a recorder and leader for each group. After suggestions are developed through brainstorming, the teacher may want to provide the students with information on each suggestion such as cost, time involved or school policies.

Example

BRAINSTORMING

TITLE: *Problems of Greenhouse Managers*

DESCRIPTION: *Brainstorming will be used to stimulate some thinking about the problems faced by greenhouse managers in the maintenance and care of greenhouses. Later discussion and study will take place to determine ways to combine ideas and suggestions will be stated in a better form.*

OBJECTIVES:

1. *Allow students to bring out possible problems in managing and maintaining a greenhouse.*
2. *Get all students to participate.*
3. *Develop a list of problems in operating a greenhouse.*

STEPS TO BE FOLLOWED:

1. *Explain subject of brainstorming.*
2. *Some students have used brainstorming before and have prepared an explanation to give the class.*
3. *Have students draw pieces of pictures out of a hat. Those with pieces which complete a picture are in a group. (5 groups of 5 each).*
4. *Students select a recorder and leader for their group.*
5. *Brainstorm for 20 minutes.*
6. *Get back together as a class. Recorders give ideas from their group. Put on board.*
7. *As a class, organize these ideas into a list for later use.*

DEMONSTRATION

What is a demonstration?

A demonstration is a visualized explanation, given by an expert, which shows how to perform an act or use a procedure. Following the demonstration, students have opportunity to practice performing the skill or procedure. A demonstration puts principles and theories into practical operation by allowing students to actually see and hear what is being performed, rather than merely reading about it.

When should the demonstration be used?

A demonstration may be used:

a. to teach students how to perform a skill which is new to them.

b. when it is helpful for students to visualize the spoken word.

c. to change the attitude that a skill or procedure is a difficult or impossible one. After visualizing the correct steps in a process, a student has confidence that he/she could be successful in performing the process.

d. to promote an interest in learning about and using a procedure.

What are the advantages of using the demonstration for teaching the disadvantaged student?

a. The disadvantaged student may have problems with oral communication or reading or both. With the demonstration, the student is able to see the steps performed without having to depend entirely on reading and oral communication.

b. The sequence of steps and key points involved become obvious to the success of the completed process. An observed outcome gives practical meaning to the learning.

c. The demonstration attracts and holds attention. It is especially relevant in relation to teaching students not motivated or who like to have physical proof of the given fact.

d. The demonstration provides a multi-sensory appeal for the disadvantaged student.

e. The demonstration is easily understood.

f. Immediate feedback on learning is given since the student is allowed to practice the skill under the direction of the teacher.

g. Hands-on experience motivates the disadvantaged vocational student. He/she can see the direct connection of this learning to a future job.

h. Practice occurs under the direct supervision and guidance of the teacher. The teacher can help to make the learning activity a successful experience by correcting errors immediately thereby preventing a possible failure.

i. A demonstration provides uniform information to all students but allows individualized instruction in the student practice.

j. A demonstration eliminates any doubt in students' minds that the skill can be done.

k. A demonstration allows for physical learning rather than abstract.

l. Principles involved in learning are presented in a form which uses both hearing and seeing.

What limitations need to be considered in using the demonstration for teaching the disadvantaged student?

a. Sufficient space, equipment and materials must be available, for all students to practice what they have seen demonstrated.

b. Provision should be made so that all students are able to see exactly what is done in the demonstration.

c. Extensive preparation may be required to insure that all materials and supplies are available both for the teacher demonstration and the practice to follow. The classroom or laboratory may have to be rearranged for easy viewing and practice by all students.

How is the demonstration used most effectively in teaching the disadvantaged student?

Before giving a demonstration, the teacher should examine the objectives to be sure that a demonstration is the most appropriate method of teaching the lesson. Is there a skill, process or procedure to be learned by the student? If so then, the demonstration may be the best way of helping the student accomplish this objective.

Students should have enough background information to benefit from the demonstration. The disadvantaged student may be accustomed to finding that the needed prerequisites to a lesson are lacking and may develop a feeling of defeat before even beginning. An informational lesson may be necessary before students can benefit from the demonstration.

Skills requiring several steps may be broken into a series of smaller demonstrations. Students may then practice each segment as it is demonstrated rather than being faced with performing a detailed process all at one time. As an evaluative device, students can then perform the complete process.

A written plan for the demonstration is most helpful. When steps to be performed and key points to be stressed are listed and noted as the demonstration progresses, it is less likely that important ideas will be omitted. The plan could also include a listing of necessary tools, equipment and supplies which will need to be assembled before the demonstration begins.

Preparation of the physical setting for the demonstration is extremely important. Students should be able to hear and see each step in the demonstration clearly. The teacher should perform each step exactly as the student will later do them. A mirror placed above the demonstration can help in having the student view the demonstration from the angle from which they will view their own performance.

One element in the definition of a demonstration is that the person showing the skill is an expert. To be effective in showing others how to perform, the teacher will need to be able to perform the skill with ease. After making the plan for the demonstration, including a step-by-step outline of what will be said and done, the demonstration can be practiced following the plan.

In planning, the teacher will have outlined an interest approach or means of motivation. One of the most effective ways to motivate the disadvantaged student is to make clear how the skill or process to be learned can be of practical use to them. How does the skill help them perform a job? How will the student be able to use the skill or process now or after graduation?

Because a teacher should be an expert in performing the skill does not mean that students can not help with the demonstration. The disadvantaged student may lack the confidence that he/she can perform this skill. If another student is involved in the demonstration and does each step as the teacher does or helps with the steps, the other students have more confidence that they too can perform the skill. Students can also help in suggesting ways they have learned to perform a skill. Sometimes the student has had experience in the area and therefore can demonstrate the skill to other students. Some of the equipment used in the classroom may not be familar to the disadvantaged student. They may have found other items, more readily available in their environment, which can be used in place of purchased equipment. These students should be encouraged to share this information with the teacher and the other students.

Ample time should be allowed throughout the demonstration to evaluate student understanding of the material being presented. The disadvantaged student may have had the experience of getting behind on a point at the beginning of a lesson and so lost interest in the lesson. Students can be asked questions

about performing a step immediately after it is demonstrated. The teacher could repeat the process. One student could be asked to perform the step or explain the procedure which has just been demonstrated.

The demonstration should proceed slowly enough so that students do not miss key points. Safety should be emphasized during the demonstration. Good working habits should also be stressed as opportunities occur throughout the demonstration.

Standards of quality should be emphasized during the demonstration. Students should know the characteristics of a good product. The group may want to evaluate the product of the demonstration, emphasizing points of this product that should be present in the finished product of the student. Disadvantaged students may have had negative experiences with evaluation in the past. To avoid repeating this negative experience, the teacher and the student may want to:

a. Set up criteria for an acceptable product before the demonstration.

b. Practice evaluating the product during the demonstration.

c. Review criteria which the student will look for in his/her finished product.

How much does the demonstration cost?

The expense involved in teaching by using the demonstration method will vary depending on the skill to be demonstrated. Any supplies, equipment, and facilities needed for the demonstration will also be needed by the students in practicing what they have seen demonstrated.

Many times the most effective way for students to learn about a new skill or concept and practice performing it may be by the use of a demonstration. Advantages of using a demonstration in teaching the disadvantaged student should be carefully considered when determining the cost involved.

How much time is involved with the demonstration?

The actual time the demonstration lasts may be relatively short. Too much presented at one time or a detailed sequence of steps may be too much for the student to comprehend and later repeat. The demonstration itself may take around thirty minutes but it may be necessary to stop at various points to summarize or have a student perform the step for other students. Students may need to ask questions during the demonstration and perhaps following the demonstration before they themselves perform.

Time for teacher preparation will also vary depending on the demonstration. In general, time will be required to plan the demonstration, obtain equipment and supplies and set up the demonstration and practice areas.

Time must be allowed, following the demonstration for students to practice the skill. Students should not feel they are rushed in this activity. Enough time should be allowed for students to perform the skill and evaluate their work. Evaluation should take place soon after the skill is performed so students have immediate feedback.

What teacher preparation does the demonstration involve?

a. For a demonstration to be most effective, a teacher will need to plan carefully to insure that all key points are stressed and each necessary step included in the presentation.

b. Equipment, supplies, and materials needed for demonstration and practice will have to be acquired and ready for use.

c. Preparation of the classroom so that all can see, hear and perform will be necessary. Students can be assigned some of the tasks to help prepare for the demonstration.

d. The teacher may need to practice giving the demonstration to be confident and competent in doing it.

e. Preparations for all students to practice the skill and to evaualte their work will be necessary. Teacher and students may want to work together in determining criteria for the evaluation of student performance.

Example

DEMONSTRATION

TITLE: *Removing rusted nuts in repairing equipment*

DESCRIPTION: *While working on some equipment in the laboratory, some of the students were having difficulty removing rusted nuts. The class determined that there was a need for a demonstration on proper methods for removing rusted nuts on equipment. The teacher will demonstrate the proper procedures to use in removing rusted nuts.*

OBJECTIVES:

1. *Students learn how to remove rusted nuts when repairing equipment.*
2. *Review principles of repairing machinery which relate to this lesson and have already been covered in class.*
3. *Students learn to save nuts and bolts when possible.*

MATERIALS, EQUIPMENT, AND SUPPLIES:

1. *Several pieces of equipment with bolts--on which nuts have been rusted tight*
2. *Assorted box and open wrenches along with a 10" adjustable wrench*
3. *Propane blowtorch*
4. *Ball peen hammer and cold chisels*
5. *Can of Liquid Wrench*

INTRODUCTORY QUESTIONS AND INTEREST APPROACH:

1. *The nuts on this piece of equipment that we have to take down are rusted tight. Do you think we would be likely to run into this situation very often in repairing machinery?*
2. *What is likely to happen if we put a heavy wrench on these nuts and try to take them off with brute strength? Show picture of what happens.*
3. *What are some of the different ways you have used to loosen nuts like these?*
4. *What are some of the safety practices that should be observed in removing rusted nuts?*

PROCEDURE:

DISCUSSION	DEMONSTRATION OR STEPS
What is the first thing we should try to do when we find a nut that won't come off by ordinary means?	

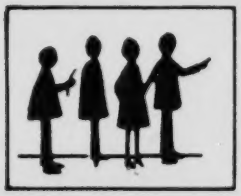
One of the methods that we could employ is to put on a little Liquid Wrench or light oil of any kind.	*Pour Liquid Wrench on a few nuts that need to be loosened.*
Does anyone know what this oil does to loosen the nut?	
Let's try some heat on the second nut. The blowtorch flame should be directed to the nut, and not the bolt. How does this loosen it?	*Heat one of the nuts with the blowtorch.*
Now let's see whether the heat has loosened this nut.	*Try to remove the heated nut with the open end wrench. If this doesn't work -*
The heated nut doesn't want to give up. Let's use another method. Sometimes hitting the nut will jar the rust loose. If you want to save the bolt and can find another nut, split the nut with the cold chisel.	*Loosen by placing a heavy piece of metal on one side and strike the other side with a ball peen hammer. Remove it if it is loosened. If not, split the nut with the cold chisel and hammer and remove.*
	Use the cold chisel and cut off the bolt.
What should you do if neither the nut or bolt is worth saving? Take a chisel or hacksaw and cut off the bolt just below the nut. Nuts can always be gotten off in this way.	
Now let's try some of the nuts that were oiled when we started.	*Some of the nuts may be loosened by this time and may be removed.*
One of these methods should work for any rusted nuts you encounter on machinery. Ask one of the students to demonstrate and explain the proper procedure to follow in removing rusted nuts.	*Student demonstrates and explains proper procedure to follow in removing rusted nuts.*
	Students practice demonstrated methods under guidance of teacher.

EVALUATION:

Students and teacher prepare a checklist for evaluation of each procedure as students perform. After practice, students evaluate their work.

FIELD TRIP

What is a field trip?



A field trip is a carefully planned educational experience in which a group of students visit an object or place of interest for a first-hand learning experience.

When should the field trip be used?

The field trip should be used with small enough groups so that all students can see and hear the object or place visited. Only the number of students who can be adequately supervised should be taken on one field trip.

The field trip may be used:

a. with students who are visually oriented. Some students need to see and hear first-hand to believe and learn.

b. to provide first-hand observation and study of something that cannot be readily brought to a classroom.

c. to stimulate interest in studying about the object or place visited.

d. to show students the results of a skill or technique in the natural environment.

e. to relate theories and principles learned in the classroom to a practical situation.

What are the advantages of using the field trip for teaching the disadvantaged student?

The field trip:

a. offers a first-hand experience; which is often the way the disadvantaged student learns best.

b. gives students a chance to see the relationship between their course work and the world of work.

c. provides an opportunity for students to see the community function and to appreciate how various elements of the community interact.

d. students have an opportunity to meet possible employers and learn to view them as *real* people.

e. brings the possibilities of working in the community closer to the student.

f. provides an opportunity for students to associate outside the classroom, practice social skills and appropriate conduct.

What limitations need to be considered in using the field trip for teaching the disadvantaged student?

a. There will probably be an element of risk involved in the field trip. The teacher must consider the nature of the field trip. Where are students going? What is the nature of the students? Written permission should be obtained from the parents of any student going on the field trip.

b. A field trip may be more expensive than other methods of instruction, however, the cost of the field trip should be considered in view of possible benefit for the disadvantaged student.

c. School time schedules may need some adjustment to permit students to spend the time needed on a field trip.

d. The field trip may require several teachers to adequately supervise all students.

How is the field trip used most effectively in teaching the disadvantaged student?

Several steps can be taken to facilitate the field trip as a successful teaching technique. Student preparation for the trip; careful planning of the trip; conducting the field trip skillfully, and follow up of the field trip.

Students should be prepared for the trip by determining:

a. Why they are making the field trip.

b. What they should observe.

c. How they should behave to insure safety, learning, and good relationships with others involved.

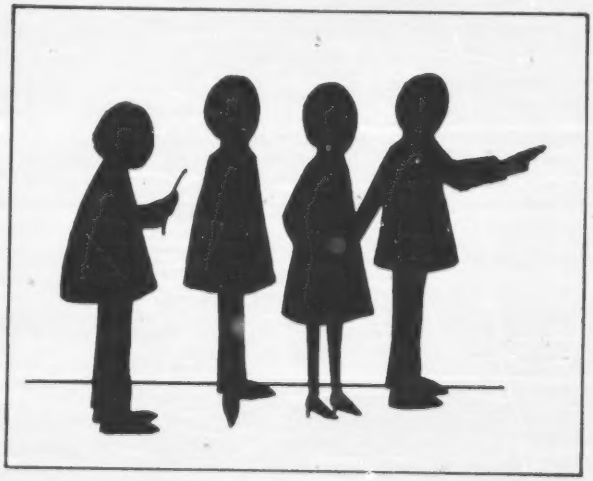
The teacher should do some careful planning for the field trip. First, the field trip should be a natural outgrowth of a particular unit of work. Objectives to be accomplished should be carefully considered in determining if the field trip is the best method to use in accomplishing the objectives.

Whenever possible the teacher should visit the site for the field trip before the field trip. By meeting the person who will be guiding the field trip and seeing what the students will be seeing, the teacher can determine what students can gain from the experience. If there are specific objects or processes which the teacher particularly wants the students to observe, the person guiding the field trip can be informed of these priorities and therefore prepare to emphasize certain areas.

The teacher is responsible for preparing the students for the trip. Background knowledge will be presented prior to the field trip. Students may need guidance in determining various points to look for during the trip. Students should understand this field trip in relation to other elements they have been studying.

Every precaution should be taken to insure the students' safety. Before the trip, students should understand any special precautions taken and be given a general overview of rules on safety. During the trip, both teacher and students should remain conscious of possible safety hazards.

To facilitate a well-coordinated, smooth running trip many details will need to be taken care of by the teacher before the trip. All physical arrangements will need to be planned in advance of the trip.



If the field trip has been well planned and students properly prepared, conducting the field trip will be much simpler for the teacher as well as being a more effective learning experience for students. During the trip, the

teacher may need to help some of the students interpret and understand some of the activities. Careful observation of the students during the field trip can provide valuable insights into understanding the students and their needs. Hints on instruction needed by the students may be picked up by watching students in a new situation.

Follow up lessons and evaluation are important parts of the field trip as a teaching technique. Students and teacher should evaluate and discuss the field trip. Specific points which students were asked to look for on the trip should be discussed. The relationship of the field trip to classroom learning activities should be apparent to students.

Students should write a thank you letter to the individuals who provided the field trip experience. This activity can help students in assuming adult responsibilities.

How much does the field trip cost?

As mentioned before, one of the limitations of a field trip may be the expense involved in this activity. A field trip may be the only way of accomplishing some of the objectives of a vocational program for the disadvantaged student. This may be the only way for the disadvantaged student to become exposed to the world outside the immediate environment. A field trip, well planned and based on objectives of the program, may well be worth the cost involved.

Some schools may have budgeted amounts to cover transportation of field trips which are part of the instructional program. If such a budget is not available, some outside organization may be willing to meet the expenses involved.

How much time is involved with the field trip?

Time is an important consideration in determining if and how to use a field trip. Time for both actual observation and transportation must be considered in planning.

Changes will probably be needed in students' schedules on the day of the field trip. Administration should be notified of the trip well in advance to allow for the needed schedule changes to be made. Individuals at the destination of the trip should also be notified of arrival and departure times so as to plan tours and presentations appropriately.

What teacher preparation does the field trip involve?

Before a field trip can be taken, the teacher must:

a. find out about any school policies on field trips.

b. secure administrative approval.

c. have students get written approval from their parents.

d. secure transportation.

e. determine all physical details of the trip--departure, and arrival time, meals involved, cost, etc.

f. secure additional supervisory help if needed.

g. determine expenses involved in making the field trip and determine how these expenses will be met.

h. prepare students with background knowledge needed, points to observe on the field trip, and safety and conduct requirements for the trip.

i. follow up the field trip with appropriate learning activities.

Example

FIELD TRIP PLAN

TITLE: *Trip to Child Care Clinic*

DESCRIPTION: *Students in the Health Assistant classes (26) will go on a field trip to see paraprofessionals, nurses, and doctors treating children at a clinic which is 20 miles from school.*

OBJECTIVES:

1. *Give students a chance to see entry level as well as more advanced health care jobs actually being performed.*
2. *Expose students to hospital-clinic environment which is a new experience for most of the students.*
3. *Tie together information and experiences students have been exposed to in the classroom.*

TEACHER PREPARATION:

Activity	*Date*
Check on school field trip policies	*Beginning of school*
Preliminary contact of people at health center	*September 30*
Secure administrative approval	*October 10*
Determine departure, arrival, meals etc.	*October 12*
Confirm details with center	*October 13*
Get two more sponsors	*October 13*
Students get parents approval	*Octover 13-19*
Prepare students for things to look for etc.	*October 19*
Trip to health center	*October 20*
Lesson and discussion on health centers	*October 21*

Checklist for use during field trip:

_____ *Do students seem able to comprehend what is going on?*

_____ *Are they interested?*

_____ *Make sure all students observe paraprofessionals, nurses, and doctors at work.*

_____ *Safety*

_____ *Conduct*

GAMES

What are educational games?

An educational game is a means of providing instruction or reviewing concepts through a structured play situation with a specific set of rules or procedures to be followed. The use of games in the classroom emphasizes that learning can be an enjoyable activity.

When should games be used?

Games are often effective with the student who:

a. has a short attention span. The reason for this short attention span may be that the material being presented is boring and too difficult for the student. Games can prevent the short attention span from occurring.

b. is disinterested in school.

c. has difficulty learning in the structured classroom.

d. lacks motivation to participate in class activities.

e. is restless when required to sit still and quiet for long periods of time.

f. needs immediate gratification for retention of learning.

What are the advantages of using games for teaching the disadvantaged student?

a. Games make learning fun. They can add variety to the daily classroom routine.

b. Social experiences are often made possible through the use of games. Students may need experience in working together cooperatively. Interaction between students is often necessary in playing games.

c. The stimulation of creative thinking allows the student to make the decisions and work for their own success.

d. Games provide more than mere recall. Students are forced to use knowledge, build upon this knowledge and adapt this knowledge to meet a variety of problems.

e. Usually games involve participation of the whole class rather than only a select few.

f. Games can simulate real life situations.

What limitations need to be considered in using games for teaching the disadvantaged student?

a. Competitive situations may cause the disadvantaged student to be seen as a failure rather than having successful experience. Some games alleviate this problem by developing opportunities for each student to be in competition with him/herself rather than other members. Games which have an element of chance or luck involved often insure that all students have an equal chance or luck involved often insure that all students have an equal chance of winning. Games which provide for group winning also reduce the chances for disadvantaged students to become discouraged with failure.

b. The time taken and the disruption of the classroom can over balance the learning taking place by use of some games. Games requiring long explanations may cause this limitation.

c. If not carefully supervised and helped to keep the goals of the game in mind, students may only play the game for entertainment and become a discipline problem.

d. If used too often games may lose their novelty as well as educational value.

e. Some students may become frustrated if they lose.

How are games used most effectively in teaching the disadvantaged student?

Using games requires *four* steps. They are: Selecting the game, preparing students to use the game, supervising the game, and then follow up of the game.

Classroom games should be chosen and designed with a specific objective(s) in mind. Student characteristics should also be kept in mind when selecting a game. Do these students need interaction with others? Should chance be a strong element in a game used with these students? What type of games will fit class size and resources available? Games

may need to be adopted to fit the students and the situation. Often students may be able to help in adapting the game. Some games require the use of tokens, boards, etc. which may be constructed by students. Students should be encouraged to develop their own games and to contribute variations to games.

Students will need to be prepared for using the game as a learning tool. Supplying the rules of the game and specific instructions for behavior during the game help set the stage. The goals and objectives of participation in the game should be discussed with students and kept in mind during play.

As students participate in the game, the teacher should be close at hand to supervise, provide encouragement and to help individual students and groups. Some disadvantaged students may need just a small amount of help in participating in the game to be successful. Encouragement and recognition for successes made are responsibilities of the teacher during the game.

The game should be discontinued when interest is still high. At this point some type of follow up is often needed. Discussion, question and answers or maybe further development of the game by the class are all ways of summarizing the learning experience. Evaluation of the learning involved can also be done during the follow up activity. If possible, both

student and teacher can evaluate the effectiveness of the game in achieving the objective(s).

How much do educational games cost?

The cost of games varies with type of game, whether bought or developed, number of students participating, etc. Prepared packaged educational games can cost a great deal, particularly when purchased in sufficient quantities for an entire class. Many of these games are fine instructional tools and this cost should be carefully weighed considering possible benefits of the game for specific groups of disadvantaged students.

Cost can be reduced when students construct their own games. Educational magazines often have games and puzzles which can be reproduced for class use. Commercial games can be converted to educational games with a little imagination. Paper, posterboard and such supplies are usually available in a school and can be used by students and teachers to prepare games for class use.

How much time is involved in using games?

Care should be taken that time spent on a game does not out weigh the educational value of the game. Objectives to be obtained by the game need to be considered when deciding on whether a game takes too much time to be used in class.

Simple games can usually be explained, played and follow up done during one class period while others may progress for several class sessions. The simple, easy to grasp game is usually the one most likely to incorporate the most learning. In addition, simple games encourage student creativity in adding variations to the game. Maximum time probably should be spent in follow up activities.

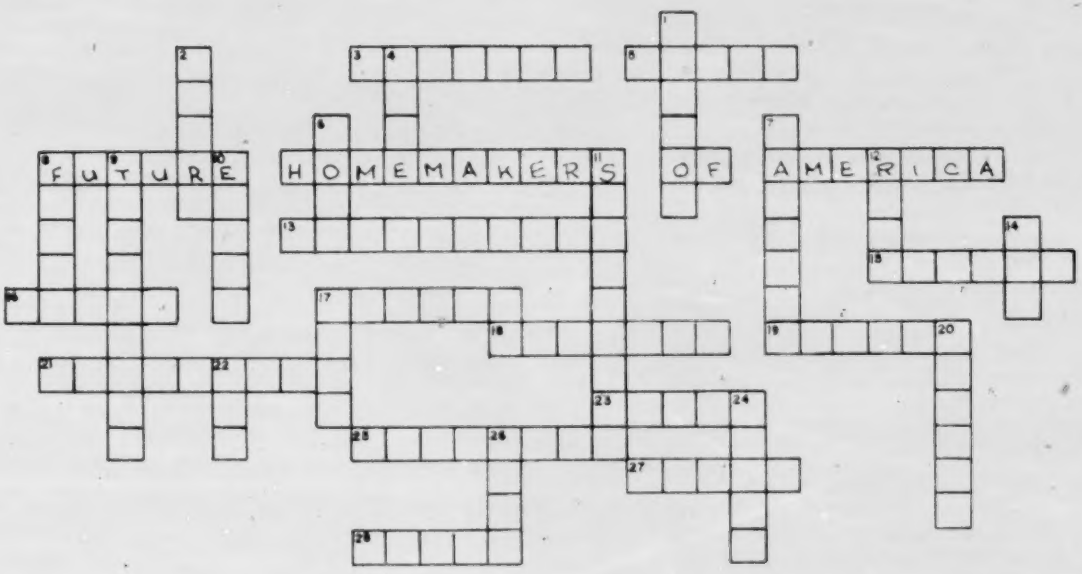
What teacher preparation does using games involve?

The teacher will need to select or adapt games to meet the learning objectives. Some time may be required in producing the game and materials needed. Appropriate follow-up activities can be developed for use after the game is completed.

The room arrangement may need to be modified to accomodate participation in games. Desks may need to be moved aside or tables brought into the classroom.

Example

FUTURE HOMEMAKERS OF AMERICA
CROSSWORD PUZZLE



Across

3. local FHA group
5. part of pin that indicates membership
13. FHA provides wholesome
15. has eight sides
16. symbol of sincerity
17. flower stands for
18. FHA'ers face the future with warm
19. inspire FHA'ers with courage and determination
21. FHA encourages ___ in the home
23. FHA works toward homes with
25. FHA works toward homes with
27. FHA seeks old and precious
28. there are 2 on the emblem

Down

1. first degree of achievement
2. pin is worn over
4. FHA faces the future with high
6. FHA works toward homes
7. our region
8. FHA works toward homes with
9. official FHA magazine
10. number of FHA purposes
11. white stands for
12. FHA flower
14. symbol for junior degree
17. can belong to FHA too
20. symbol for chapter degree
22. suggests strength
24. in center of emblem
26. on the emblem

PUBLISHERS OF GAMES

ACO Games
1208 East Market Street
Charlottesville, Virginia 22901

Academic Games Associates
430 East 33rd Street
Baltimore, Maryland 21218

Academic Games Project
Division of South Florida
Education Center
3600 S.W. 70th Street
Ft. Lauderdale, Florida 33310

American Institute for Research
P.O. Box 1113
Palo Alto, California 94302

Appleton-Century-Crofts
Programming Department
440 Park Avenue South
New York, New York 10016

Arizona DECA
1333 West Camelback Road
Suite 115
Phoenix, Arizona 85013

Atech Enterprises, Inc.
9 Hicks Street
North Amityville, New York 11701

The Avalon Hill Company
4517 Harford Road
Baltimore, Maryland 21214

Benefic Press
10300 West Roosevelt Road
Westchester, Illinois 60153

Cadaco, Inc.
310 West Polk Street
Chicago, Illinois 60607

Championship Games, Inc.
68 Church Lane
Westport, Connecticut 06880

Computer Games, Inc.
P.O. Box 544
Chicago Heights, Illinois 60411

Creative Playtings
Princeton, New Jersey 08540

Cuna Mutual Insurance Society
P.O. Box 391
Madison, Wisconsin 53701

Educational Development Center, Inc.
55 Chapel Street
Newton, Massachussetts 02158

Educational Progress Corporation
8538 East 41st Street
Tulsa, Oklahoma 74145

Entelek, Inc.
42 Pleasant Street
Newburyport, Massachussetts 01950

Games Central
c/o Abt. Associates, Inc.
55 Wheeler Street
Cambridge, Massachussetts 02138

Games Research Inc.
45 Wareham Street
Boston, Massachussetts 02118

Interact
P.O. Box 262
Lakeside, California 92040

International Learning
Corporation
440 East Las Olas Boulevard
Ft. Lauderdale, Florida 33301

Milton Bradley
Springfield, Massachussetts 01100

Parker Brothers
Salem, Massachussetts 01970

Paul S. Amedon & Associates, Inc.
5408 Chicago Avenue, South
Minneapolis, Minnesota 55417

Project Simile II
P.O. Box 1023
LaJolla, California 92037

Science Research Associates
259 East Erie Street
Chicago, Illinois 60611

Selchow and Righter Company
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INDIVIDUALIZED INSTRUCTION

What is individualized instruction?

As used in this publication, this method refers to a one to one individual and prescribed instructional situation that accomodates the learning styles and interests of disadvantaged students and facilitates sincere and honest expectations that these students will succeed. This method has obvious variations (i.e., individualized instructional packages, work stations, programmed instruction, etc.)

Individualized learning packages, programmed instruction, work stations and many other methods all allow the student to work at his/her own pace. To be most effective, some feedback is provided students as they progress. Methods of individualized instruction usually provide some successes for the student to encourage further participation. Some of the methods and techniques described in this manual use the principles of individualized instruction. Many of the most effective ways of teaching the disadvantaged student require some characteristics of individualized instruction.

When should individualized instruction be used?

This technique is appropriate for use with the disadvantaged student who has some of the following student characteristics:

a. Low achiever who has to work at his/her own speed

b. Difficulty in verbalization

c. Latent unexpressed curiosity and creativity

d. Not easily motivated by traditional classroom instruction

e. Has high fear of failure

What are the advantages of using individualized instruction for teaching the disadvantaged student?

Individualized instruction:

a. permits instruction to start where the student is.

b. provides maximum motivation for creativity.

c. provides awareness of hidden abilities.

d. allows the disadvantaged student to work at their own pace, thereby assisting in bringing out their creativity.

e. provides flexibility in meeting students' different learning styles.

What limitations need to be considered in using individualized instruction for teaching the disadvantaged student?

Individualized instruction:

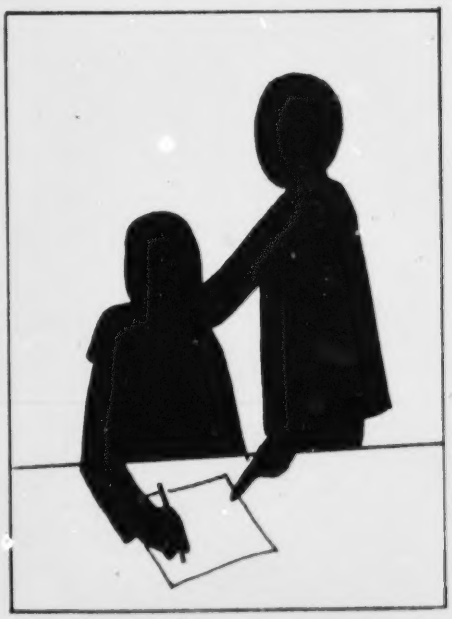
a. could require a great deal of preparation depending on the type of individualized instruction (i.e., independent study, programmed learning, work station, etc.)

b. requires limited class size to gain reasonable span of control.

c. requires awareness of students' needs, interests, and capabilities.

How is individualized instruction used most effectively in teaching the disadvantaged student?

This technique is most effective when the program of instruction has prescribed objectives, operational procedures for required performances and methods of evaluation tailored for each student with regards to his/her inventory of abilities and career objectives.



Although each variation of individualized instruction may require a different type of teacher assistance, all of them

will be most effective when the teacher is able and willing to give some assistance. The disadvantaged student will need encouragement and at times help in understanding the lesson being presented.

How much does individualized instruction cost?

Usually little cost is involved; however, expenses may vary depending upon the type of individualized instructional approach. Also, the purchasing of materials can sometimes be an expensive proposition. The teacher and/or student may also want to select equipment or facilities which could help accomplish the objectives.

What teacher preparation does individualized instruction involve?

Preparation time: Varies depending on the length and type of unit and/or task to be completed.

Application time: Short

Follow-up: Longer

Individually diagnosed and prescribed instruction requires considerable time for initial teacher preparation. It requires evaluation and revision for valid development, and may require a comprehensive inventory of modular instructional material.

PEER TEACHING

What is peer teaching?

In peer teaching a student who has mastered a particular skill or some basic knowledge shares this competency by working with another student to help him/her learn the skill or knowledge.

When should peer teaching be used?

Peer teaching works especially well with students who are underachievers. If a student is slow at grasping an idea or often needs repetition of concepts involved in an area, peer teaching could be used.

Students who learn quickly may benefit from reinforcing their learning as they teach another student. If the tutor lacks confidence and needs practice in working with others, peer teaching can benefit the tutor also.

What are the advantages of using peer teaching for teaching the disadvantaged student?

Peer teaching could be used:

a. to assist with the successful integration of the disadvantaged student into regular vocational classes. When the teacher has a large number of other students, the disadvantaged student might be neglected; but a peer may be able to help the disadvantaged student succeed in the classroom by providing the teacher extra help in reinforcing what is taught.

b. to improve self-concept of the disadvantaged student. Unless given special attention and opportunity to learn at his/her own pace, the disadvantaged student may have repeated failure experiences in the classroom.

c. to improve knowledge of the subject and communication techniques of both peer and tutor.

d. to help the tutor gain self-confidence by sharing a special skill, experience or knowledge and reinforces what he/she knows about the topic.

e. to increase self-assurance and motivation in the disadvantaged student.

f. to make learning more friendly and less formal.

g. to stimulate social intermingling on a one-to-one basis. Students from different backgrounds can get to know each other as friends and helpers.

What limitations need to be considered in using peer teaching for teaching the disadvantaged student?

a. There may be a limited number of students who volunteer to be tutors. Some students who are capable of peer teaching may not wish to work with the disadvantaged student.

b. If not committed to peer teaching and willing to use patience in teaching, the tutor may only make a disadvantaged student feel stupid or inferior.

c. Scheduling problems may prevent students who could otherwise work in a peer teaching situation unable to meet.

d. Some coordination and supervision is needed by the teacher to insure the success of peer teaching.

How is peer teaching used most effectively in teaching the disadvantaged student?

The teacher must first identify students who possess the skill, knowledge and competence to assist a student who needs extra help in learning. Some attempt should be made to assess how well these students can work together for the benefit of both students. After having peer teaching explained to him/her, the student should volunteer to participate in the program rather than being forced into the activity.

Scheduling should be arranged so that cooperative work time is provided for peer teaching. If two peers are in the same class period, a tutor may be a student who always finishes work before the other students. In this case, the extra time could be used to help another student. Often extra

time may be set aside for peer teaching to enable the disadvantaged student to get the extra help needed following the regular class period.

Supervision, evaluation and follow up should be provided by the teacher for most effective use of peer teaching. Closer supervision may be needed in the beginning to insure that students are getting to know each other and accomplishing their goals. As students work together, they will be able to evaluate their progress. From time to time the teacher will need to check on peer teaching to determine its continuing effectiveness.

Most important, the teacher should evaluate the experiences provided by peer teaching to determine if the experience was successful. Does the student feel he/she is accomplishing something important? Are the objectives of the class being met for the disadvantaged student through peer teaching?

Student evaluation is very important in determining the effectiveness of peer teaching. Being close to the situation, the students are probably the most able to determine if peer teaching was effective and how the experience might be improved.

As a teacher, it is important not to overlook the fact that the disadvantaged student may also be a peer teacher. A special skill or knowledge which the disadvantaged student has mastered may be just as important as the skills of any other student. Others in the class may benefit from peer teaching where the disadvantaged student is the tutor. A conscious

effort ought to be made by teachers using this instructional strategy to identify disadvantaged students with the appropriate skills and knowledge who can perform the role of peer tutoring.

How much does peer teaching cost?

Peer teaching does not involve any expense above that of the regular vocational classroom. In some cases, peer teaching is more effective when students have work space and facilities available for their use at times other than class time or separate from the regular class. Ordinarily, a regular classroom and supplies available for daily class work are suitable for peer teaching.

How much time is involved with peer teaching?

Peer teaching may require time outside the regular classroom to be most successful. Practice may be required for learning skills and some time outside of class may be needed for this purpose. It may take more time for students to help other students learn but on the other hand this may be the most effective way for the disadvantaged student to learn.

What teacher preparation does peer teaching involve?

To use peer teaching effectively, the teacher will need to make sure students working together are complimentary to each other. It will be necessary to determine that students doing the tutoring are competent in the skill or knowledge to be taught.

Work areas may need to be set up before students arrive. Coordination of time and schedules may be necessary to get students together. Following peer teaching, the teacher and student will need to evaluate the experience.

Example

PEER TEACHING

TITLE: *Using a framing square in laying out a rafter*

DESCRIPTION: *A student in a building trades class is having trouble using a framing square in laying out a rafter. The teacher assigns a student who is competent in this area to help the troubled student. The teacher is careful to select a student tutor who is patient, can relate to others, and can express himself/herself well. The peer tutor helps the other student learn how to use the framing square in cutting out rafters relative to its positioning and placement. The peer tutor thus reinforces personal learning while helping another to overcome problems.*

OBJECTIVES:

1. *Help student with problems in laying out a rafter using a framing square.*
2. *Help peer teacher to get acquainted with other student and reinforce own learning.*

EVALUATION:

1. *Each student fills out an evaluation of the experience.*
2. *Teacher fills out evaluation.*
3. *Students and teacher get together to discuss effectiveness of the experience.*

PROJECT METHOD

What is the project method?

The project method is a type of instruction in which the student is responsible for selecting, planning, executing and evaluating a specific skill or work assignment with the guidance of knowledgeable and experienced individuals. Students apply what they are learning in the classroom as well as learning additional skills, attitudes and knowledge. Theory and knowledge are put into action. Responsibility for their learning is placed on the students. The purpose of this method is to provide the student with an opportunity to learn independently by doing.

When should the project method be used?

The project method may be used most effectively with small groups. No more than twelve students can be effectively supervised and assisted by one teacher.

The method may be used:

a. to demonstrate and reinforce newly acquired skills or knowledge. By putting this skill and knowledge to actual use, students can learn to be practical in terms of the availability and cost of equipment and material, time and space required.

b. when a wide range of individual differences in student abilities exist. The project attempted can be made to fit the student's level of motivation, maturity and ability.

c. to encourage a student to work and learn who is difficult to reach in the typical classroom setting.

d. to place the responsibility for learning on the student.

e. to stimulate experimentation and creativity.

What are the advantages of using the project method for teaching the disadvantaged student?

With the project method:

a. instruction is individualized to fit the student's needs and working pace.

b. the student has the responsibility for planning, directing and evaluating his/her own learning experiences.

c. the student is offered the opportunity to feel pride in self-accomplishment.

d. the student actually makes something that can be seen, felt and used. It can give students the chance to see that education can be of practical use to *them*.

e. the student who may be difficult to reach in a typical classroom setting can be actively involved in a learning situation.

f. freedom of expression is encouraged to a greater degree than is often true of a rigidly structured classroom setting.

g. when the student is encouraged to plan a realistic project, the student receives positive reinforcement and success in an educational experience.

What limitations need to be considered in using the project method for teaching the disadvantaged student?

a. *Realistic* goals must be set up by student and teacher when planning the project for the individual student in order for success to be realized.

b. As the student and teacher plan the project, consideration should be given to a project that requires only the supplies and materials which are within either the school or student's ability to provide.

c. As with practically any teaching method, a large number of students may decrease the ability of the teacher to help supervise and reinforce success of students which is a valuable part of instruction, particularly for disadvantaged students.

d. Time and space for doing the project may need to be provided at the school as some disadvantaged students may not have these resources available to them outside the school.

How is the project method used most effectively in teaching the disadvantaged student?

There are four stages in using the project method to aid students in learning: selecting a project, planning a project, executing a project,

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and evaluating a project. At each stage of the project students will need the guidance of an informed teacher to be successful. Although student input is a most important aspect in having the disadvantaged student get the most from the use of the project method, the teacher has a responsibility to guide the student so that the project will be a successful learning experience.

Selecting a Project

Possibly the most valuable tool in teaching disadvantaged students is getting to know them as individuals. This is extremely important in helping the student choose a project. Some students will need more guidance than others. Some students may require a list of possible projects, prepared by the teacher, which will accomplish the learning objectives and which the student is capable of completing. The teacher and student can then work to individualize the choosen project to fit the student. Other students will be able to suggest a project for use in meeting a particular educational objective. With these students, the teacher will be able to act in suggesting ways to improve the project or perhaps make it more practical.

The following criteria can help the teacher and student in selecting projects. An acceptable project should:

a. meet or contribute to at least one major educational objective of the course.

b. hold the student's interest until completion.

c. be within student's ability.

d. present the student with a challenge.

e. have as its main feature a good, simple and functional design, which can be expanded upon with little technical background.

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f. require a reasonable length of time for completion.

g. be economical.

h. put to practical use newly acquired knowledge of the student.

i. develop a feeling of self-reliance and self-esteem in the student.

Planning the Project

After the student has selected a project which meets the educational objectives of the course, a plan for carrying out the project should be developed. The plan should include the following:

a. a description of the project

b. objectives of the project

c. equipment, supplies and facilities needed; including costs

d. steps to complete the project

e. things to be done in accomplishing each step

f. methods of evaluation, who will evaluate and at what points in time. Continuous evaluation should be planned to keep student and teacher aware of progress and to give the teacher a chance to help the student in problem areas.

Again, the amount of autonomy given the student in planning depends on the individual student. Often the disadvantaged student has never been given the chance to make *any* decisions on his/her own educational development. To dump total responsibility into the lap of a student who has very little experience in planning, is to insure failure in the completion of this project. If the project method is to give the student a success experience, the teacher must carefully determine how much planning the student can do on their own and how much teacher guidance will be needed. It is a good idea to have a written plan so that progress checks can be made at various points in project completion. (See example plan which follows the discussion of the project method).

Executing the Project

When the project plan is carefully done with input from both student and teacher, the student should have little trouble executing the plan. Even if trouble does arise, the continuous evaluations, written into the plan, will allow recognition of the problem and deal with it before it assumes major proportions.

As the student executes portions of the project and checks them off on the plan, a sense of satisfaction develops. There are opportunities at each check point for the teacher to give reinforcement to the student. The teacher should, of course, be available at all times to assist the student when help is needed.

Evaluating the Project

The final evaluation will again, depend on the student, but criteria should be determined and written up at the planning stage of the project. Some students may wish to assign themselves a grade and have the teacher do so also. Often with disadvantaged students, who may have had negative experiences with letter grades in the past, the student and teacher may wish to set another type of criteria for evaluation. In any case, the criteria for evaluation should be stated and defined in the plan. If the student sets an objective of building an attractive bookcase, there should be a definition of "attractive" in the plan so that both student and teacher can evaluate the finished project systematically and objectively.

One way to evaluate completed projects is to give the student an activity to complete which involves similar skills and knowledge to determine how effective the project was in teaching the educational objective.

How much does the project method cost?

Costs for the project will vary according to the project selected. This should be taken into consideration by student and teacher when selecting the project. Part of the learning experience should involve the figuring of costs of equipment and supplies. Even if these will be purchased by the school, students should realize the cost involved. The teacher may want to set a limit for the students to follow as far as cost goes. This would add to the practical aspect of the project and help students realize that many projects can be completed at very little cost.

How much time is involved with the project method?

As the plan is prepared, the amount of time needed should be carefully considered. The time required will depend on the student, the project and school schedules to some extent. In general, the project should be short enough to hold the student's interest but long enough to allow full involvement by the student.

What teacher preparation does the project method involve?

The teacher must prepare the students for beginning a project. Background information must be mastered by the student before proceeding on the project. Methods involved in carrying out the project should be explained to students. Some practice of skills with the guidance of the teacher may be needed to complete the project.

Students must know how to operate the equipment and tools needed to complete the project. Safety in using all equipment and tools should be

stressed by the teacher. Until students have demonstrated ability to abide by safety rules, no individual work should begin.

The teacher must know the students well enough to help them select projects. In some cases the teacher may need to prepare "model projects" which will accomplish the lesson objectives. With some students only verbal guidance will be needed by the teacher in selecting appropriate projects.

As the project is planned, the teacher may need to help students order supplies and make sure all of the items needed for the project are available to students.

If one principle can be stressed as the key to the successful use of the project method with the disadvantaged student, it is teacher availability. The teacher must be available to provide assistance, encouragement, and praise as needed by the student at all stages of the project.

Example

PROJECT PLAN

TITLE: *Making a Machine Bolt*

Name: *Jane Martinez*
Date Started: *January 2*
Date Completed: *January 24*

DESCRIPTION: *Making a machine bolt because a purchased one may not always be available and will cost more.*

OBJECTIVES:

1. *Learn to make bolt.*
2. *Use bolt dies, threading tapes, grinding wheel and power hacksaw properly.*
3. *Read a ruler and bill of materials.*
4. *Use this information after graduating.*

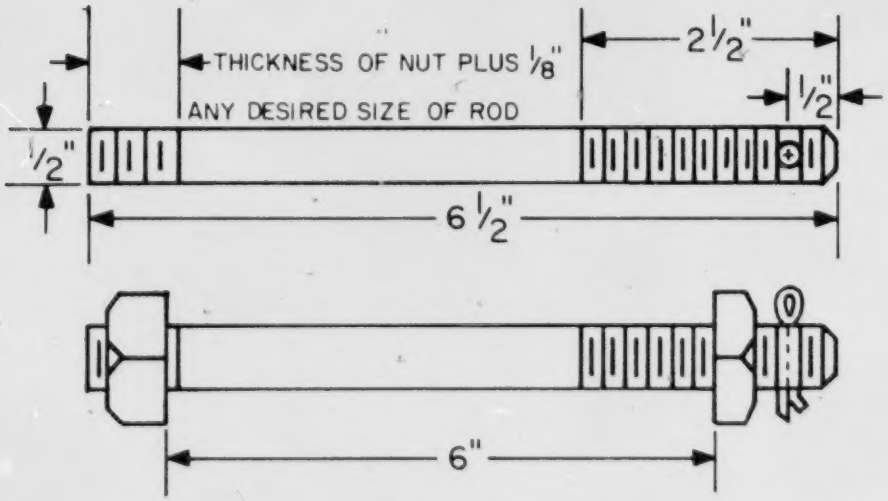
EQUIPMENT, SUPPLIES ETC:

Materials needed	*Quantity*	*Dimensions*	COSTS
Round Iron	*1 piece*	*1/2"x6 1/2"*	*50¢*
Nuts	*2*	*1/2"*	*10¢*
Cotter Pin	*1*	*5/32"x1 1/2"*	*3¢*

These are all available as scrap materials in the shop

STEPS TO FOLLOW:

Diagram of Project



Steps	Teacher Checkpoints
Cut round iron to length as shown in drawing with a hacksaw.	*(checks measurement, correct use of tools, and looks of project at checkpoints)*
Measure the thickness of nut, and cut enough NC threads on one end of the round iron so that the end of the rod will protrude about 1/8" through the nut when it is screwed on tightly.	
Screw nut on the threaded end until 1/8" of threads protrude.	
Place bolt in a machinist vise with bottom of the nut resting on top of vise jaws, and tighten vise.	
Brad the end of the bolt to prevent the nut from turning. This makes the head of the bolt.	_____
Grind or file a 1/8" chamfer on the other end of the rod so that the die and nut will start easily.	
A cotter pin may be used to prevent the nut from turning off by drilling a 3/16" hole through the rod 1/2" from the chamfered end for a 5/32x1 1/2" cotter pin.	_____
Cut 2 1/2" of NC threads on the chamfered end, and screw nut on bolt. Note: The same procedure may be used for making any size of machine bolt. Use thread-cutting oil when cutting threads on the rod.	

EVALUATION: *I want to make a good-looking machine bolt, use the correct tools and be able to do it again later. "Good-looking" means being the correct size and smooth on all edges with even threads.*

STUDENT:

Correct measurement
Could be straighter and smoother
Had trouble with power hacksaw

TEACHER:

Good measurement
Looks good
Need practice with tools
Smooth and straight

RETRY AT END OF SEMESTER:

STUDENT:

TEACHER:

RESOURCE CENTER

What is the resource center?

This instructional strategy incorporates physical entities including textbooks, newspaper articles, magazines, journals, brochures and other printed materials appropriate to the subject matter area. These materials are displayed in a section of the classroom for student use. In addition, student projects or written work can also be displayed. Newspaper clippings of student achievements or community activities relating to the vocational area could be brought to the center and displayed.

When should the resource center be used?

As the name implies, this instructional strategy is designed to facilitate increased motivation and added responsibility on the part of the disadvantaged student. Consequently, when there is a general lack of motivation, lackadaisical attitudes and inability to conceptualize project ideas combined with the presence of available physical resources, this technique would be most appropriate.

What are advantages of using the resource center for teaching the disadvantaged student?

a. Access to a resource center has the potential of providing greater motivation for completing a project or activity worthy of being displayed.

b. It will provide an opportunity for students to become involved in classroom activity by having to assume some degree of responsibility for the resource center.

c. A resource center makes available resources that would otherwise not be found in the classroom.

d. The resource center stimulates students to know more about the particular unit of instruction.

e. Since students will be watching for items which may relate to what is taking place in the classroom, the resource center may help students to bring classroom learning and the real world closer together.

f. Self concept, self respect and self worth of the student is increased as a result of having work displayed and receiving praise for it.

What limitations need to be considered in using the resource center for teaching the disadvantaged student?

The resource and motivation center:

a. requires classroom and/or shop space.

b. may end up being too much of an extra burden for the teacher if students do not accept responsibility for the center.

c. has the possibility of allowing inferior quality projects to be put on display.

How is the resource center used most effectively in teaching the disadvantaged student?

The resource center concept is based upon the theory that the disadvantaged student has a reasonable degree of ability and that this student can learn if adequately motivated and provided with reinforcement of learning. With this in mind, the teacher may want to:

a. have some type of introductory lesson to explain the resource and motivation center to students,

b. explain student responsibility for the center, and

c. get some agreement and commitment on the part of the students to make the center a success.

As a part of the introduction of the resource and motivation center, the teacher may want to give examples of materials included in an interesting

center. Students could brainstorm and develop a list of items which could be displayed. These activities will serve to get students interested in contributing to the center.

The teacher should continue to take note of the materials displayed and provide students with feedback on the success of the center. A resource center should be made an important part of the class and student activities. Whenever possible, the teacher may want to make a special effort to ask other teachers, administrators and visitors to come in and see the resource center. The recognition students receive from this center could help others in the educational system and community to better understand the disadvantaged student and their accomplishments.

How much does the resource center cost?

Little cost is involved. There will be an initial cost for bookshelves, magazine stands, bulletin boards, etc. Books and other resources may be borrowed from the library rather than purchased to cut down on costs. Student work and newspaper articles will be used much of the time.

How much time is involved with the resource center?

The resource center requires continuous involvement and up-keep; thus the teacher may want to equally divide the time for this responsibility by rotating the students.

What teacher preparation does the resource method involve?

The teacher will:

a. determine student interest and willingness to assume responsibility for the resource center.

b. provide the leadership in developing organizational policies for the effective operation and utilization of the center.

c. plan follow-up activities.

RESOURCE PERSON

Who is a resource person?

A person knowledgeable and experienced in some field related to the vocational program may be brought into a class as a resource person. The resource person makes a presentation to the class concerning occupations related to the vocational program.

When should the resource person be used?

A resource person can be used to bring to a class the viewpoint of one who is experienced in an area which students have or will be studying. Students can see a practical use for the knowledge and skills they are gaining through a presentation made by someone working in the field being studied.

Relationships between the school and the world of work can be strengthened through the resource person in the classroom. Students can meet members of the community and ask questions which they may have about a particular job or industry. In turn, the resource person can obtain insight into programs offered at the school.

What are the advantages of using the resource person for teaching the disadvantaged student?

a. Students can receive first-hand knowledge of a job and a worker.

b. A resource person can bring the real world to the students.

c. Students can see that there is a practical reason for learning skills and knowledge in the vocational program.

d. Role models may be provided for disadvantaged students if the resource person chosen has a background similar to theirs.

e. The fun and exciting things about a job and company may be presented to students.

f. Large groups of students can usually benefit from a presentation by a resource person.

g. A resource person can stimulate interest in an occupation.

What limitations need to be considered in using the resource person for teaching the disadvantaged student?

a. The resource person may not be able to relate to the disadvantaged student.

b. If the presentation isn't exciting, students may leave a negative impression with the resource person by misbehaving or failing to listen.

c. The vocabulary of the resource person and the students may not be similar.

How is the resource person used most effectively in teaching the disadvantaged student?

An experienced person who is working in an area similar to that being studied will need to be selected as a resource person. When the person has agreed to speak to the class he/she should be given information concerning:

a. length of presentation

b. the type of students and their characteristics

c. major points to be brought out in the presentation

d. background information which has already been covered in class

e. details such as time to arrive, where lunch will be provided etc.

Students will need some preparation before the resource person arrives in order to get the maximum benefit from the presentation. An explanation of who is coming, where the resource person works and how the presentation will fit into the lessons already in progress will prepare students for the presentation. The class may want to develop a list of points to look for in the presentation and/or questions to ask the resource person. Guidelines for appropriate conduct when visitors are in the school may be reviewed before the resource person's presentation.

When the resource person arrives, one of the students can meet them and if possible introduce them to the class. As the presentation proceeds, the teacher can observe closely to get students' reactions to the presentation. It may be possible to determine areas where students are especially interested and later develop lessons to meet these needs.

Following the presentation, students may be given time to ask questions of the resource person. The teacher may wish to point out important concepts discussed in the presentation if time permits. Follow up of some type should take place at perhaps the next class meeting. The class can discuss the presentation and ask the teacher any questions they may have. Any unclear points could be covered at this time. Students may want to discuss the occupation of the resource person and the pros and cons involved in holding this particular job.

A thank-you note should be written either by the class or the teacher. Both the resource person and the company should be sent copies of the letter. It may also be appropriate to send copies of the letter to the school administration.

How much does the resource person cost?

Many resource persons will agree to speak to a class without charge. Companies are often willing to provide this service as a public relations activity. Some individuals do charge to give presentations and the cost involved will depend on the particular speaker.

How much time is involved with using the resource person?

A resource person will probably give their presentation and allow time for questions and answers within an hour time period. If several groups are to hear the same presentation, it may be possible to schedule classes so several groups can hear the resource person at one time.

What teacher preparation does the resource person involved involve?

The teacher may need to secure administrative approval for the resource person to come to the school. The resource person selected will need to be given ample notice so as to prepare a presentation and reserve time for the activity. Some time will need to be allotted for the teacher to determine what major points need to be covered and inform the resource person. It may be wise to remind the resource person a few days before the presentation of the time, place and date. When the resource person is selected, they should be asked what equipment and facilities will be needed. Then the teacher can make sure these things are available in the classroom. Depending on the resource person and presentation, overhead projectors, film projectors etc. may be needed.

The teacher will need to prepare the class for the resource person's visit. Background information on the subject to be discussed should be presented before the resource person arrives. Students and teacher may prepare a list of questions to be asked of the resource person. Further, it is extremely important for the teacher to plan for a follow up activity and discuss this with the students in order that they will be able to relate this presentation to the objectives of the program.

Example

RESOURCE PERSON PLAN

TITLE: *Visit from Teller of Bank*

DESCRIPTION: *Students have been discussing the various jobs available in a commercial bank. A teller could show students a real world example of a bank worker.*

OBJECTIVES:

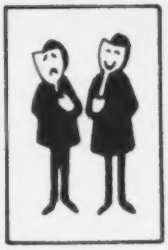
1. *Stimulate interest in banking job.*
2. *Provide role model person from the neighborhood who works as a teller in a bank.*
3. *Let students see the opportunities for advancement in banking.*

STEPS TO BE FOLLOWED:

1. *Determine when banking unit will be taught.*
2. *Meet with teller to discuss being a resource person for class.*
3. *Obtain approval from school administration.*
4. *Contact speaker, discuss points to be covered and confirm date and time.*
5. *Orient students to resource person's visit.*
6. *Select students to meet and introduce speaker.*
7. *Develop list of questions to be asked of speaker or gained from the presentation.*
8. *Resource person's presentation.*
9. *Group discussion of presentation.*
10. *Class writes Thank-You Letter.*

ROLE–PLAYING

What is role–playing?



Role-playing is a spontaneous acting out of a situation, condition, or circumstance by students in the classroom. Role-playing is done by students in the classroom who try to portray typical attitudes, rather than by persons with special acting ability who have rehearsed for a performance. Following the illustration of differing attitudes in a situation, the class discusses and interprets what happened by using another learning technique such as the group discussion.

When should role-playing be used?

Role-playing is used effectively to:

a. emphasize affective learning rather than cognitive learning.

b. bring role-players and observers closer to an actual experience of feelings and reactions involved in a problem or situation than they would by reading or hearing about it.

c. promote understanding of others' viewpoints and feelings.

d. teach the skill of "putting oneself in another's shoes".

e. discover how people might react under certain conditions and situations.

f. resolve conflict, especially interpersonal conflict.

g. promote better intergroup relations.

h. suggest social values.

What are the advantages of using role-playing for teaching the disadvantaged student?

Role-playing can be used to help the disadvantaged student:

a. to become more verbal. These students often need help in learning to express themselves verbally.

b. show creativity.

c. learn in the affective domain--attitudes.

d. become more interested in learning.

e. gain in self-understanding as they see themselves in the roles portrayed.

f. gain an understanding of the feelings of others.

g. become actively involved in the learning situation.

What limitations need to be considered in using role-playing for teaching the disadvantaged student?

a. Role-playing cannot be used to accomplish highly complex objectives; it is only useful in simple clear-cut problems and situations.

b. Students who are not accustomed to this type of attention may be fearful and anxious about playing a role.

c. Students may become so involved in role-playing that they fail to recognize the significance of the content brought out in the situation. Students and teacher must give alert, careful attention and direction for role-playing to be effective.

d. Role-players may become so involved in their roles that they display deep personal emotions.

How is role-playing used most effectively in teaching the disadvantaged student?

Before beginning role-playing, several things should be explained to students:

a. The problem to be role-played should be outlined.

b. It should be explained that role-playing involves no rehearsal or experienced actors.

c. Objectives of the role-play can be outlined and perhaps written on the chalkboard so students can keep these in mind during role-play.

d. The roles to be played should be defined for students.

There are various ways to determine which students will play the roles. The group may wish to assign the roles. The teacher may assign the roles having a specific reason for the assignments. Or students may volunteer for

roles. All students should be given a chance rather than having a few students always monopolize role-playing situations.

Role-playing is never rehearsed. It should be a spontaneous presentation of attitudes in a situation. Nevertheless, students should be given a brief preparation time in order to think through the problem, decide on the stand they wish to take, and get involved in the role. Both players and audience will need to be briefed on the situation behind the role-playing. The teacher may wish to suggest certain aspects of the situation for closer observation. Observers need to understand that their part is an important one. Students in the audience will need to understand that they cannot expect too much from the characters in such a situation. Observing and listening closely are traits the audience will need to develop in order for role-play to be effective.

Characters then act out the situations involved. During the role-play, the teacher can observe both the characters and the audience. Valuable information about the student's actions in groups can be gained through this observation. Since this is a time for revealing attitudes, the teacher will be able to observe the students' feelings and attitudes.

Emphasis should be placed on the roles being played and not on the students playing the roles. Students should keep the goals of the role-play in mind during the situation. A teacher should be alert for students

who may be getting too far into the role and showing deep personal emotions. As the situation is role-played, the teacher should be carefully assessing the experience as a learning experience and thus avoiding discipline problems.

Role-playing should be brief. Characters should proceed with the role-playing until they have had time to make their positions known. Role-play should be stopped while interest is still high.

It may be desirable to replay the scene. This is necessary in cases where there are two sides to a situation. An example of a role-play situation which might be reenacted would be one in which a clerk was dealing with an angry customer. The teacher might wish students to role-play a "correct" and "incorrect" way of dealing with an angry customer. Other students in the audience may wish to reenact the role-play to express attitudes which they have observed in a real world situation but which weren't brought out in the previous role-playing situation.

Follow up of role-playing is done by discussing the actions involved in the situation by use of another method. Discussion groups, class discussions and panels are only a few of the methods which could be used to summarize what was brought out by role-playing. Focus of follow up activities will depend upon objectives, but procedures frequently used are:

a. Asking participants how they felt when certain things occurred and ask the observers how they would have felt in a similar situation.

b. Asking why characters acted as they did in this situation.

c. Formulating principles of behavior which might be derived from the role-playing experience.

d. Discussing alternative behaviors and results in a similar situation.

e. Evaluating and summarizing the experience.

How much does role-playing cost?

Role-playing generally does not involve any cost. Since the dramatization is spontaneous and informal, it usually requires no props or extra materials. In certain situations, a limited number of such materials may be required. Depending on the follow up method, some expense may be involved in films, speakers, etc.

How much time is involved with role-playing?

Role-playing a situation usually takes no more than 5 to 15 minutes. Caution should be exercised, however, in starting role-playing when there is too little time for proper expression of attitudes, clarification of misunderstandings and ample time for follow up. Since role-playing can generate interest and motivation, the teacher should allow ample time to take advantage of this interest to promote other class activities.

What teacher preparation does role-playing involve?

Before beginning any role-playing situation, the teacher will need to:

a. determine how well the objective(s) can be met with role-playing.

b. carefully study characteristics of the class (age, sex, background) and try to visualize students' reaction to role-playing.

c. define the problem and determine the roles to be played to both self and students.

d. plan physical arrangements so all students can see and hear.

e. if students have not been exposed to role-playing, the teacher should prepare an introduction to the method. Students who have already experienced role-playing situations will need to know and understand the goals of the role-play situation, background information, responsibilities of the audience.

f. prepare a follow up learning experience.

Example

ROLE-PLAY

TITLE: *Working conditions in an industry*

DESCRIPTION:

Role-play situation:
Conflict has developed from grievances which workers in the ACE industry have expressed. The workers (2 in this case) feel working conditions should be improved. In addition to the workers there is a foreman, a superintendent and a union steward, each seeing the problems from a different point of view.

OBJECTIVES:

1. *Determine some of the desirable working conditions in industry.*
2. *Learn to express grievances according to pattern developed by class previously.*
3. *Obtain some insi t into feelings and attitudes of persons on all sides of the pro ms in such a situation.*

ARRANGEMENT OF ROOM, EQUII T ETC.:

1. *Borrow platform from drama teacher. There are several characters and all can see better with platform.*
2. *Arrange chairs in a semi-circle around platform before class.*

CHECKLIST FOR CLASS:

____ *Review previous lessons relating to grievances and working conditions briefly.*
____ *Describe situation to class.*
____ *Get volunteers for the characters.*
____ *Assign 4 groups to watch for specific things during role-play.*
   1. *Working conditions described? How well? Are these important? Why? Do workers stick to these grievances as the discussion continues?*
   2. *Is grievance procedure followed by workers? How? Why did they proceed as they did?*
   3. *Is grievance procedure followed by other members? How? Why did they proceed as they did?*
   4. *What attitude did the workers take? Why? What attitude did the others take? Why?*

____ *Follow up discussion in 4 observation groups.*
____ *(Characters prepare classroom--get out list of previously prepared grievances procedure and hang it up. Get colored pencil ready etc.*
____ *Groups report their findings based on discussion and role-play.*
____ *Large group discusses the grievance procedure according to prepared chart hanging up. Students use various colored pencils to indicate where grievance procedure was followed and where deviated from.*

____ *Students discuss attitudes according to chart. Use pencils to indicate where grievance procedure was followed and where deviated from.*

____ *Students discuss attitudes according to chart. Use pencils to indicate positive and negative attitude at each step in procedure.*

____ *Class evaluates experience.*

SOURCES CITED

Bergevin, P., Morris, D. and Smith, R. M. Adult Education Procedures: A Handbook of Tested Patterns for Effective Participation. The Seabury Press, 1966.

Board of Vocational Education and Rehabilitation, Division of Vocational and Technical Education. Occupational Education for Disadvantaged and Handicapped Persons. Review Bulletin No. 40-273.

Burrichter, A.W. and Ulmer, C. Special Techniques That Work in Teaching the Culturally Deprived. Prentice-Hall Adult Education Series, Prentice Hall, Inc., Englewood Cliffs, New Jersey, 1972.

Fantini, Mario and Weinstein, G. The Disadvantaged: Challenge to Education. New York: Harper & Rowe, 1968.

Feck, Vincent. What Vocational Education Teachers and Counselors Should Know About Urban Disadvantaged Youth. Columbus, Ohio: The Center for Vocational & Technical Education, The Ohio State University, October, 1971. 38 pp. (VT 013-5437), 46.

Mager, R. F. Preparing Instructional Objectives. Palo Alto, California: Fearon Pubiishers, 1962.

Sheppard, N. Alan. Characteristics and Myths: The Disadvantaged Learner. College of Education, VPI & SU, Blacksburg, 1974.

Sheppard, N. Alan. Paper presented at VPI & SU, Blacksburg, Virginia at Part G (Special Cooperative) workshop for vocational education.

Thomas, Edward G. and Omvig, Clayton. Methods, Techniques and Learning Activities for Use With The Disadvantaged. Kentucky Research Coordinating Unit, Department of Vocational Education, College of Education, Lexington, Kentucky, 1971.

Webster, S. W. Knowing the Disadvantaged. San Francisco: Chandler Publishing Co., 1966.

Vocational Education Amendments of 1968, From Federal Register, Vol. 35, No. 4, Part II, January 7, 1970 Sec. 102.3(i).